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Areawide Waste Treatment and Water Quality Management Planning. Stream Use in Southern Illinois

Greater Egypt Regional Planning and Development Commission, Carbondale, IL

Prepared for

Environmental Protection Agency
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Stream Use in Southern Illinois. The report identifies and locates 97 stream reaches in the 10-county Southern Illinois 208 area. Use of these stream reaches by the public is documented together with information regarding uses to which the public would like to put these stream uses in the future. Standard stream use categories developed by Illinois Environmental Protection Agency are used. Report data was transmitted to IEPA for agency use in the preparation of new water quality standards for Illinois streams.

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Areawide Waste Treatment And Water Quality Management Planning

Stream Use In Southern Illinois

Franklin, Gallatin, Hamilton, Hardin, Jackson, Jefferson, Perry, Pope, Saline, and Williamson Counties, Illinois

GREATER EGYPT REGIONAL PLANNING & DEVELOPMENT COMMISSION

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Areawide Waste Treatment And Water Quality Management Planning

106

Stream Use In Southern Illinois

Franklin, Gallatin, Hamilton, Hardin, Jackson, Jefferson, Perry, Pope, Saline, and Williamson Counties, Illinois

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December, 1980

William Kelley, Chairman
Greater Egypt Regional Planning
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Lloyd Williams, Chairman
Southeastern Illinois Regional Planning
and Development Commission

Transmitted herewith is the Stream Use Inventory Report Stream Use in Southern Illinois. This document supplies information to be used by the Illinois Environmental Protection Agency in fulfillment of their responsibility to establish water quality standards for the State of Illinois which includes the consideration of stream use. It is a result of an information gathering effort involving literature search, field work and an extensive public contact effort.

The report is an integral part of the Fiscal Year 1980 Areawide Water Quality Management Planning Program. It is designed to meet the contract requirements of Federal Grant P005461-01 with the United States Environmental Protection Agency.

We trust the submittal of this report, as well as others comprising the 1980 Water Quality Management Planning Program, will serve to document the continuing planning activities for water quality management.

Sincerely,

A. S. Kirkikis

A. S. Kirkikis
Executive Director

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The Kinkaid-Reed's Creek Conservancy District

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City of Harrisburg
Pope County Sheriff's Office
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Village of Galatia
Village of Stonefort
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Bay Creek Conservancy District

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Chapter 1

INTRODUCTION

The Areawide Waste Treatment and Water Quality Management Plan for Southern Illinois identified various point and nonpoint sources of water pollution which affect area streams. Many streams were found to be degraded by impacts from pyritic mine wastes, sediment loads, agricultural nutrients, pesticide derivatives, septage and other sources. In some streams degradation of water quality was found to be sufficient to severely limit possible use of the waters or associated environs for human activities.

The plan also identified waters whose quality was sufficiently high to allow uses that require clean water and to support diverse biotic communities. Various practices were recommended whereby high quality waters may be maintained and polluted waters relieved of degrading impacts.

As practices are implemented which result in improved water quality or serve to sustain existing high quality through periods of increasing human activity, it will be necessary to rely more on established standards to interpret the effects of various impacts on streams and impoundments in Southern Illinois. It seems questionable that a single set of standards is adequate for streams as diverse in hydrology, flow regimes, streambed characteristics, land use impacts, and potential for human use as those in Illinois. Violations of a water quality standard may mean something quite different for the usefulness of one stream as opposed to another.

The Illinois Envrionmental Protection Agency (IEPA) has the responsibility to propose water quality standards. These standards will be based on specific stream uses. By this means IEPA intends to make future water quality problems "definable in terms of degraded or denied uses".[1]

In order to assist IEPA in preparation of water quality standards which take human use of streams and desired use of streams into account the Greater Egypt Regional Planning and Development Commission (GERP&DC) has gathered information regarding stream uses. Data has been gathered on current uses and public desire for future use of specific streams in the Southern Illinois Water Quality Management Area for presentation to IEPA. In carrying out this effort GERP&DC has endeavored to: 1) identify stream reaches in the Big Muddy and Saline River Basins and in the Ohio River Drainage area of Pope and Hardin Counties and separate them into convenient units for the consideration of potential and actual stream uses; 2) identify the current stream uses occurring in these stream reaches; and 3) learn and record the public desire for future use of specific stream reaches.

Chapter 2

METHODOLOGY

Delineation of Stream Reaches

All perennial streams in the ten county Southern Illinois Water Quality Management Area (WQM) were considered for inclusion in the Stream Use Inventory. Forty-seven streams and associated impoundments were selected on the basis of their stream use importance, their position in the drainage basin, or the impact of their existing water quality on stream use considerations. Streams within the headwaters of the Wabash Basin were not considered because they represented so small a portion of the Basin and were limited primarily to use as agricultural drainage ditches.

The major streams (the Big Muddy River and Saline Main Stem) were divided into segments and each segment (reach) assigned a number. Streams tributary to these reaches were assigned the same number plus additional digits. Tributary streams of sufficient length were also divided into reaches (Figures 1A, 1B, 1C). The number assigned to each reach was designed to distinguish between reaches for the tabulation of data and also to associate tributaries with the main stem reach to which they flow.

Identification of Current Stream Uses

Categories of stream use were agreed upon in discussions and other communications involving IEPA and the areawide water quality management agencies. The established categories and their application in the ten county area were as follows:

1. Water Transportation - no application in area streams;

2. Drainage - Primary or incidental use of drainage outlets, wetland drainage from waterways or ditches and use of re-shaped streambed as a drainage outlet;

3. Non-Contact Recreation/Aesthetic - Streamside picnic, hiking and camping areas; streamside and in-stream hunting and trapping activities, streamside temporary housing and parks;

4. Contact Recreation - Swimming, waterskiing, scuba diving and skin diving;

5. Power Generation - Use of flowing water to generate electricity;

6. Domestic Water Supply - Water supply for home and general domestic use;

7. Commercial Water Supply - Supply for consumptive and non-consumptive commercial water use;

8. Industrial Water Supply - Supply for consumptive and non-consumptive use of industry including power generation and coal preparation;

9. Non-Game Fishing - Harvest of rough fish such as carp and carpsuckers;

10. Sport or Game Fishing - Harvest of typical game fish and predator species such as bass, sunfish and crappie;

11. Commercial Fishing - The harvest of fish for sale under proper permit;

12. High Power Boating - Operation of power boats having a power rating over 10 H.P.;

13. Low Power Boating - Operation of power boats having a power rating of 10 H.P. or less;

14. Unpowered Boating - Use of canoes, sailboats, or other unpowered or man-powered watercraft;

15. Waste Assimilation - a) municipal and domestic point source effluents; b) industrial point source effluents including NPDES permitted coal preparation facility effluents.

STREAM REACHES OF THE OHIO RIVER TRIBUTARIES

FIGURE 1A

N

Scale in Miles

0 1 2 3 4 5

LEGEND

BASIN BOUNDARIES

WATERSHED BOUNDARIES

COUNTY LINES

STREAM REACH IDENTIFICATIONS

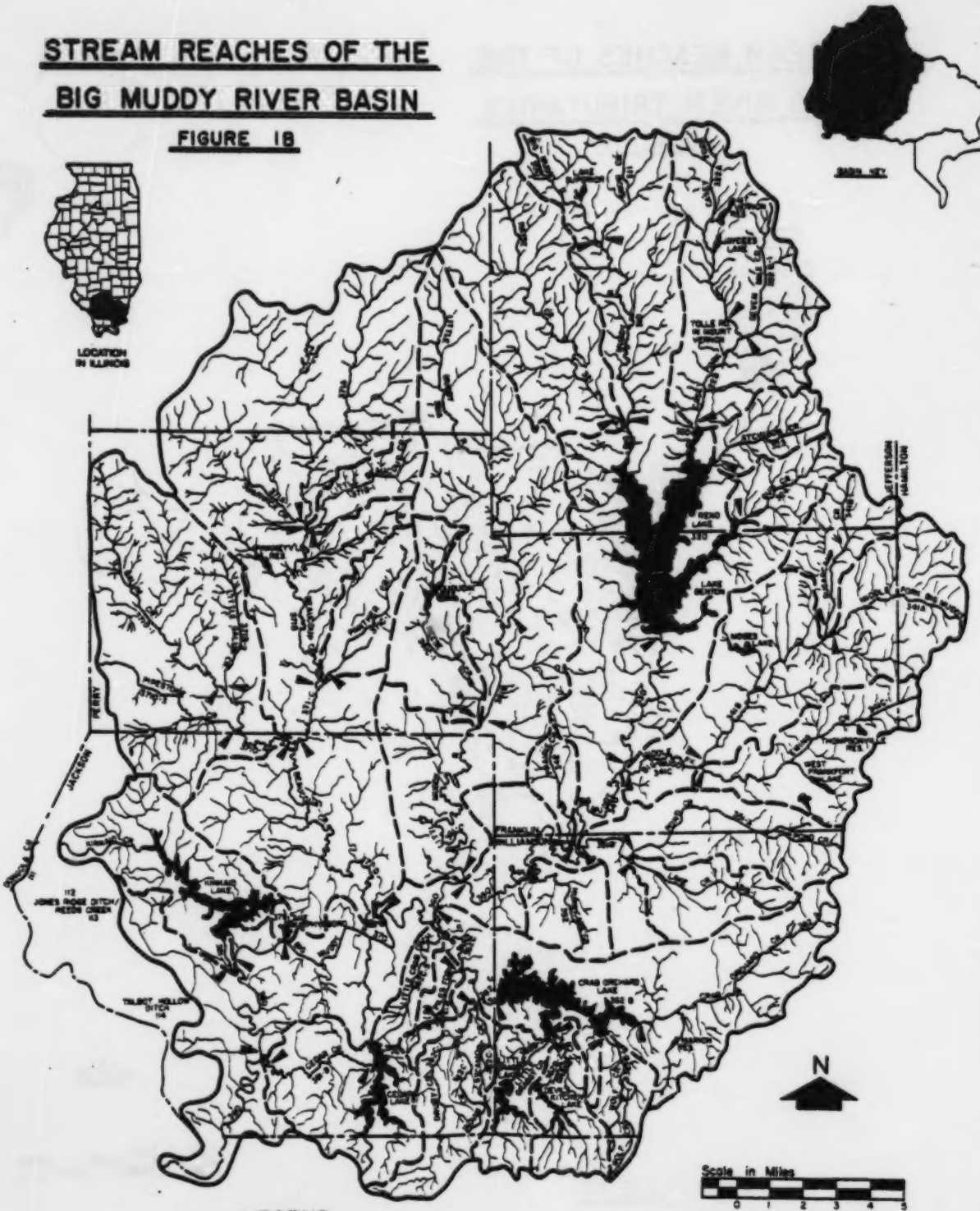
LAKES & RESERVOIRS

STREAM TRIBUTARIES

GREATER EGYPT REGIONAL PLANNING & DEVELOPMENT COMMISSION

STREAM REACHES OF THE BIG MUDDY RIVER BASIN

FIGURE 18



LEGEND

- BASIN BOUNDARIES
- WATERSHED BOUNDARIES
- COUNTY LINES
- STREAM REACH IDENTIFICATIONS
- LAKES & RESERVOIRS
- STREAM TRIBUTARIES

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STREAM REACHES OF THE SALINE RIVER BASIN

FIGURE 1C

Reproduced from best available copy.

N

Scale in Miles

0 1 2 3 4 5

LEGEND

- BASIN BOUNDARIES
- WATERSHED BOUNDARIES
- COUNTY LINES
- STREAM REACH IDENTIFICATIONS
- LAKES & RESERVOIRS
- STREAM TRIBUTARIES

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Three methods were used to gather current and desired future stream use information. These were a search of existing literature which addresses any of the stream use categories (including the 208 areawide waste treatment and water quality management planning documents); contacts with organizations and agencies with knowledge of the area streams; and contacts with the general public.

The publications consulted are listed in the bibliography. Local, county, state, and federal agencies consulted included county sheriffs, environmental interest groups, soil and water conservation districts, river conservancy districts, representatives of municipal sanitation departments, municipal and regional planners, Department of Conservation personnel, district conservationists, forestry personnel, industry representatives and others. Contacts with the general public were made through two series of four scheduled public meetings at five different locations in the ten county area and through use of a booth set up at the two major area shopping centers.

The meetings were conducted so as to give information about the nature and objectives of the project and to gather information from the public about how specific streams are used and about how the public wishes to use them. Those who attended the first round of meetings (held in August) were asked to name persons or organizations they felt could be of assistance. Those who attended the second series of meetings (in October and November) were asked to fill out a questionnaire giving information about uses and desired uses of specific streams (Figure 2). This questionnaire was mailed with a cover letter to all county sheriff offices and all soil and water district offices. It was also distributed to other member agencies and local governments via the Regional Water Quality Coordinating Council and to interested persons who visited the Stream Use Inventory booth at the shopping malls. Returned questionnaires provided specific information about 24 of the 47 streams covered in this inventory.

Additional information about desired stream use was obtained in conversations with municipal and regional planners and from published county, municipal and national forest planning documents.

Figure 2
THE STREAM USE INVENTORY QUESTIONNAIRE

INSTRUCTIONS: Name a stream you are familiar with and give the location of the segment of that stream about which you can give information. Use roads that cross the stream, section numbers from a county highway map, or names of nearby towns to locate the stream segment.

After "Current Uses" enter numbers from the list below that correspond with ways the stream is now used.

After "Desired Uses" enter numbers from the same list that indicate how you would like to use this stream in the future. Consider only uses that are possible for this stream given its natural flow and depth.

Under "Current Stream Condition" tell if this stream segment is polluted, has no shading vegetation, is channelized, or is otherwise affected by man.

STREAM NAME	LOCATION	STREAM USES & DESIRED USES	CURRENT STREAM CONDITIONS
		Current Uses_____ Desired Uses	
		Current Uses_____ Desired Uses	
		Current Uses_____ Desired Uses	
		Current Uses_____ Desired Uses	

Categories For Existing Stream Uses:

1. Water Transportation.
2. Drainage (primary or incidental) (drainage tile outlets, wet land drainage, etc.).
3. Non Contact Recreation/Aesthetic (picnic & camping areas, hunting areas, streamside housing & park sites).
4. Contact Recreation (Swimming, water skiing, diving, etc.).
5. Power generation (hydroelectric power).
6. Domestic water supply.
7. Commercial water supply (consumptive and non-consumptive).
8. Industrial water supply (consumptive and non-consumptive).
9. Non-game Fishing (rough fish).
10. Sport or Game Fishing.
11. Commercial Fishing.
12. High Power Boating (over 10 HP).
13. Low Power Boating (10 HP & less).
14. Unpowered Boating (canoes, sailboats).
15. Waste Assimilation
    a. municipal & domestic point sources.
    b. industrial point sources.

Stream and Watershed Descriptions

The stream reaches were described and use data tabulated in five geographic subdivisions to make tabulation and geographic location less complex. The subdivisions are:

Mississippi Bottomlands Drainage
The Smaller Ohio River Tributaries
The Upper Big Muddy River Basin
The Lower Big Muddy River Basin
The Saline River Basin

The tables containing stream use and desired stream use data are presented in the same order.

Chapter 3

STREAM USE INVENTORY

Mississippi Bottomlands Drainage

Except for the Big Muddy River Basin, all of the drainage directly to the Mississippi River in the ten county Southern Illinois Water Quality Management Area is confined to western Jackson County. This drainage consists of two creeks (Degognia Creek and Reed's Creek) and several small intermittent flowing hollows that drain from the rugged Mississippi bluff area onto the flood plain, plus a series of drainage ditch networks on the flood plain which drain the extensive croplands of the Mississippi bottoms. Degognia Creek flows to the Mississippi in Degognia Township. Its headwaters are in Randolph County. A levee bounds the creek where it crosses the flood plain. The levee then extends south and southeast affording protection from Mississippi flood waters.

Reed's Creek flows south from Shawnee National Forest lands onto the flood plain and enters a flood channel of the Mississippi south of Raddle. Two major ditches drain the area, one flowing to a pumping station south of Jones Ridge and another flowing to a pumping station south of Jacob. Drainage water from about 20 square miles of cropland is pumped over the levee at these two points. The primary use of these streams is field drainage. Since other uses are not likely and no public desire for other uses was expressed, no stream use table was prepared for these streams.

The Smaller Ohio River Tributaries

Except for the Saline River, the streams of the ten county Southern Illinois Water Quality Management Area which directly enter the Ohio River include a series of streams found in Hardin and Pope Counties. Most of these streams flow through Shawnee National Forest lands (Figure 3). These are sparsely populated areas and experience minimal effect from agriculture and other human activities. These streams are Haney Creek, Peters Creek, Big Creek, and Three Mile Creek in Hardin County

and Big Grand Pierre Creek, Lusk Creek and Bay Creek in Pope County.

Together with their tributaries these streams have the highest water quality in the ten county area. They support a rich diversity of fish species and fish food organisms. Many areas of natural beauty attract hikers, backpackers, trail riders, and canoeists to these streams and streamside areas. They are typically clear, near neutral ph streams with light sediment loadings.

Haney Creek flows in a 13 mile semi-circular course in eastern Hardin County. Peters Creek flows a 14.5 mile course from east central Hardin County southwesterly then south entering the Ohio River across the north channel from Hurricane Island. Big Creek flows southward 19 miles from its headwaters in west central Hardin County entering the Ohio River near Elizabethtown. Three Mile Creek flows southward in western Hardin County 7.8 miles entering the Ohio River near Shelterville.

Big Creek typifies the Hardin County streams. It is a pool and riffle stream with an average gradient of 12 feet per mile. The lower reach of the stream supports a fishery of game, commercial and forage species. Game fish predominate, making up nearly 50% of the fish population by weight.[2] Canoeing is rendered difficult on Big Creek by shallow riffles and fallen trees. The primary land cover in the watershed is forest and degrading impacts on water quality are minimal.

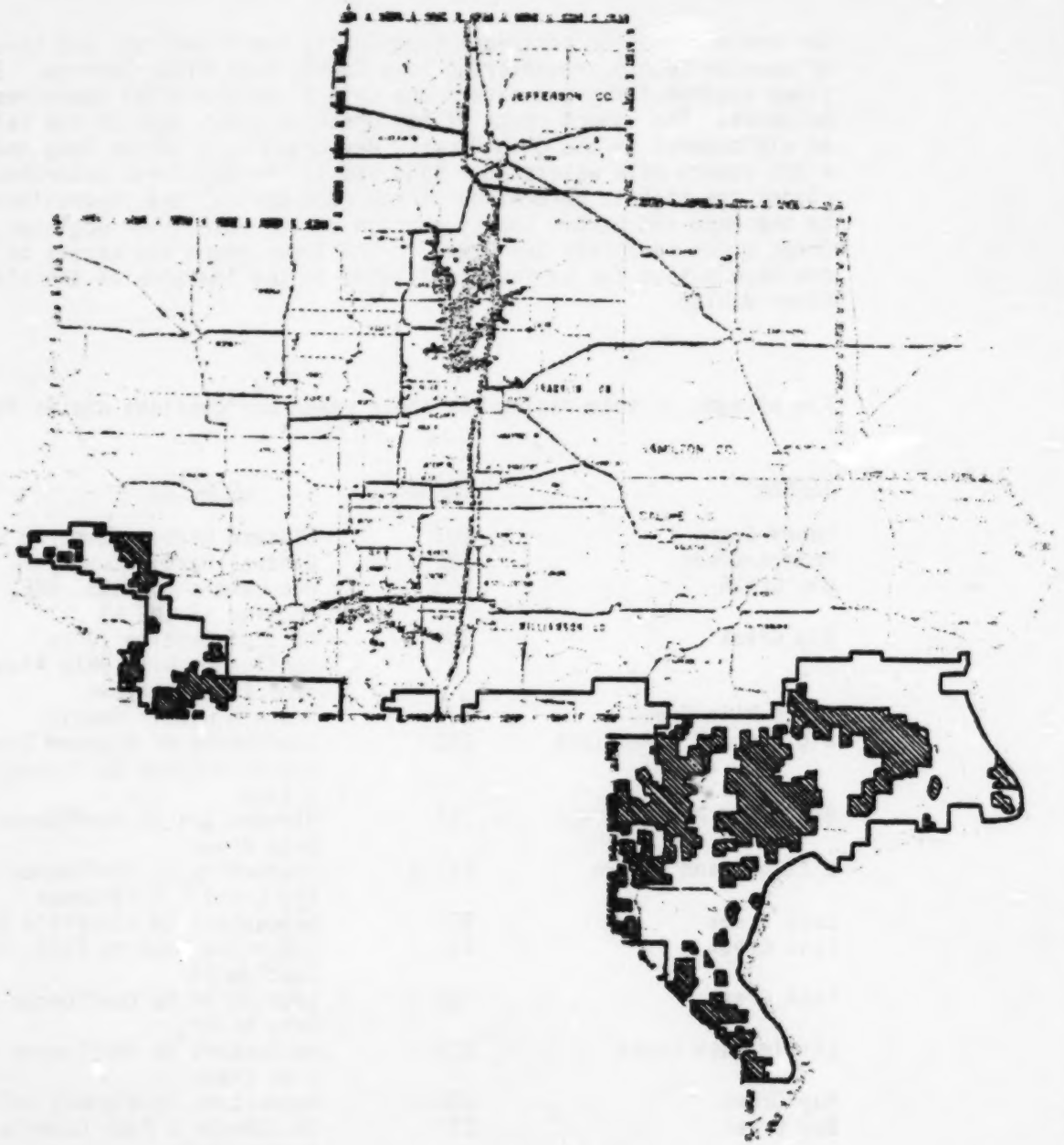
In Pope County, Big Grand Pierre Creek flows 15.6 miles southward from the confluence of its headwater streams. The average gradient is 7 feet per mile. A wide, deep portion of the streambed in the upper reach forms Grand Pierre Lake. A cut off ox bow lake occurs in the lower reach of this creek. Most of the upper reach is a riffle and pool stream. The stream is wider and deeper in the lower reach.

Lusk Creek arises in northeast Pope County and flows south and southeasterly to its confluence with the Ohio River at Golconda. This creek is 32 miles long and drains a watershed of 88.1 square mile area. A high diversity of game, commercial and forage fish species is reported for Lusk Creek.[3] Lusk Creek is known as a good canoeing stream and for its scenic beauty.

FIGURE 3

SHAWNEE NATIONAL FOREST LANDS

IN THE SOUTHERN ILLINOIS WATER QUALITY MANAGEMENT AREA



NORTH

NATIONAL FOREST BOUNDARY

NATIONAL FOREST LAND

scale in miles

GREATER EGYPT REGIONAL PLANNING & DEVELOPMENT COMMISSION

The preparation of this map was financially aided through Federal Grant No. P005469-01 through the U.S. Environmental Protection Agency under the Water Pollution Control Act Amendments of 1972.

Bay Creek arises in northwest Pope County and flows into and through part of Johnson County, re-entering Pope County near Dixon Springs. It then flows southeasterly and enters the Ohio River six miles downstream from Golconda. The lowest reach of Bay Creek occupies part of the valley of an old channel of the Ohio River. Bay Creek is 57 miles long and drains a 225 square mile watershed. Land use in the Bay Creek watershed includes the highest percentage of row crop agriculture (approximately 70%) in the Pope and Hardin County portion of the Ohio River Drainage. Bay Creek ditch parallels Bay Creek in the lower reach and serves as a drainage outlet for agricultural lands in the lowlands of the old Ohio River Valley.

The streams of this region and their reach designations are as follows:

Stream	Reach	Location
Haney Creek	201	Eastern Hardin County
Peters Creek	202	Central Hardin County
Big Creek	203	Headwaters to T12S, R8E, Section 17 (NE ¼)
Big Creek	204	NE ¼ of Section 17 to confluence with Ohio River near Elizabethtown
Three Mile Creek	205	Western Hardin County
Big Grand Pierre Creek	210	Confluence of Gibbons Creek and Rose Creek to Highway 146 bridge
Big Grand Pierre Creek	211	Highway 146 to confluence with Ohio River
Little Grand Pierre	211-1	Headwaters to confluence with Big Grand Pierre Creek
Lusk Creek	220	Headwaters to Eddyville Road
Lusk Creek	221	Eddyville Road to T13S, R6E, Section 14
Lusk Creek	222	Section 14 to confluence with Ohio River
Little Lusk Creek	220-1	Headwaters to confluence with Lusk Creek
Bay Creek	230	Headwaters to Highway 147
Bay Creek	231	In Johnson & Pope Counties to Highway 145
Bay Creek	232	Highway 145 to T14S, R6E, Section 15
Bay Creek	233	Section 15 to confluence with Ohio River
Glendale Lake/ Sugar Creek	231-1	Lake and outflow to confluence with Bay Creek

The Ohio River will soon be raised by the newly constructed highrise Smithland Dam. When the new pool of the Ohio River has been filled the water level at the mouths of Bay and Lusk Creeks is expected to rise fourteen feet and create a water backup of several miles. A corresponding rise and backup will occur on all of the Pope and Hardin County streams which empty into the Ohio River. Changes in stream use are anticipated due to this permanent flooding of the lower reaches of these streams.

See Table 1, Stream Use Data for the Ohio Tributaries, on page 26.

The Upper Big Muddy River Basin

The basin of the Big Muddy River occupies most or all of Jefferson, Perry, Franklin, Jackson, and Williamson counties plus a small part of Hamilton County. The main stem of the river totals 155 miles long, has a mean depth of 9 feet and drains a watershed measuring 2,387 square miles. The relief from headwaters to mouth is about 150 feet giving an average gradient of slightly less than 1.0 feet per mile.

The portion of the Big Muddy River Basin treated here will be the main stem of the river from its headwaters to the Little Muddy River and the tributary systems which enter the Big Muddy River upstream from the Little Muddy River. In these upper reaches the Big Muddy flows southerly through Jefferson and Franklin counties, southwesterly through the northwest corner of Williamson County and southwesterly into Jackson County.

A large portion of the river has been impounded by a dam of earthen and concrete structure in north central Franklin County built by the Corps of Engineers. This dam holds a lake having 18,900 surface acres (Rend Lake). Rend Lake has a maximum depth of 31 feet and a mean depth of 9.8 feet providing a storage capacity of 185,000 acre feet. It is the major water supply reservoir in the ten county Southern Illinois Water Quality Management Area supplying 52 communities.

The Big Muddy and 13 of its tributaries have been included in this stream use inventory. Eight of these are tributary to the upper reaches. These streams and their reach designations are as follows:

Stream	Reach	Location
Big Muddy River	300	Headwaters to Snow Creek confluence
Big Muddy River	310	Snow Creek to Rend Lake
Big Muddy River	320	Rend Lake
Big Muddy River	330	Rend Lake to the Middle Fork confluence
Big Muddy River	340	Middle Fork to Pond Creek confluence
Big Muddy River	350	Pond Creek to Little Muddy River confluence
Snow Creek	311	Headwaters to confluence with Big Muddy River
Rayse Creek	321	Headwaters to confluence with Big Muddy River
Casey Fork	322A	Headwaters to Tolle Road, Mt. Vernon
Casey Fork	322B	Tolle Road to Rend Lake
Seven Mile Creek	322B-1	Headwaters to confluence with Casey Fork
Atchison Creek	323	Headwaters to Rend Lake
Gun Creek	324	Headwaters to Rend Lake
Middle Fork of the Big Muddy River	341A	Headwaters to Sugar Camp Creek confluence
Middle Fork of the Big Muddy River	341B	Sugar Camp Creek to Ewing Creek confluence
Middle Fork of the Big Muddy River	341C	Ewing Creek to confluence with Big Muddy River
Sugar Camp Creek	341B-1	Headwaters to confluence with Middle Fork of Big Muddy River
Ewing Creek	341C-1	Headwaters to confluence with Middle Fork of Big Muddy River
Prairie Creek	342	Headwaters to confluence with Big Muddy River
Pond Creek	351A	Headwaters to Lake Creek confluence
Pond Creek	351B	Lake Creek to confluence with Big Muddy River
Lake Creek	351B-1	Headwaters to confluence with Pond Creek
Hurricane Creek	352	Headwaters to confluence with Big Muddy River

Land use in the upper Big Muddy drainage is mostly row crop farming. Oil production occurs in the watersheds of the Jefferson and Franklin County tributaries. Streamside foliage along most reaches is trees and shrubs. Heavily wooded areas are found in the headwaters and the river bottomlands north of Rend Lake. In heavily cropped areas the smaller intermittent tributaries sometimes lack any shading or vegetative buffer.

Deep, slowly permeable clay soils dominate in the area. Drainage of agricultural land is an important stream use in portions of the tributary watersheds. Hunting and trapping are common streamside activities. Water fowl hunting is an important activity where tributaries enter Rend Lake. A protected heron rookery exists at the north end of the lake. Except for Rend Lake, fishing is limited to points of easy access along the streams. This activity does not extend very far upstream from the lake. Numerous impoundments are available for fishing in the watershed. Boating activities are confined to Rend Lake and several other impoundments with associated urban and recreational land uses.

Domestic and industrial waste effluents enter the watershed. Casey Fork receives the most point source effluent. Nonpoint impacts include runoff from agricultural lands and oil field brine affected areas. The most polluted waters are found in the lower reaches of Casey Fork[4] and the lower reach of the Middle Fork of the Big Muddy River.[5] Fish populations in these stretches may be limited to rough fish species. Fish inventories in the Big Muddy River and some of its tributaries in Jefferson and Franklin Counties included both game fish and rough fish. These included large mouth bass, bluegill, crappie, channel catfish, bullheads, carp and buffalo.

Extensive green belt, conservation areas and several new impoundments have been proposed for the upper Big Muddy River.[6] To the extent that these plans are carried out additional stream uses requiring water quality sufficient for water supply and contact uses will be desired in Rayse Creek, Snow Creek, Casey Fork, Seven Mile Creek, Atchison Creek and Gun Creek.

See Table 2, Stream Use Data for Upper Big Muddy River Basin on page 27.

The Lower Big Muddy River Basin

The lower reaches of the Big Muddy River are entirely within Jackson County. This portion of the river measures approximately 55 miles and has an average depth of 10 feet. This portion of the Big Muddy River is meandering and falls through only 50 feet of relief. In the lower reaches the river occupies the eastern edge of the Mississippi flood plain. Here its flow is slowed and it receives seasonal backwater from the Mississippi. The Big Muddy flows southwesterly in its own flood plain across most of Jackson County then turns southerly onto the Mississippi flood plain. There are no instream impoundments in this portion of the Big Muddy. There are wetland areas which provide wintering areas for migrant waterfowl. Some of these wetlands have been set aside as the Oakwood Bottoms Waterfowl Management Area.

The lower Big Muddy River and five of its tributaries have been included in this stream use inventory. These streams and their reach designations are as follows:

Stream	Reach	Location
Big Muddy River	360	Little Muddy River to Beaucoup Creek confluence
Big Muddy River	370	Beaucoup Creek to Kinkaid Creek confluence
Big Muddy River	380	Kinkaid Creek to Cedar Creek confluence
Big Muddy River	390	Cedar Creek to confluence with the Mississippi River
Little Muddy River	361A	Headwaters to FAP 841 Bridge
Little Muddy River	361B	FAP 841 Bridge to Reese Creek confluence
Little Muddy River	361C	Reese Creek to confluence with Big Muddy River
Reese Creek	361C-1	Headwaters to confluence with Little Muddy River
Crab Orchard Creek	362A	Headwaters to Crab Orchard Lake
Crab Orchard Creek	362B	Crab Orchard Lake
Crab Orchard Creek	362C	Lake spillway to confluence with Big Muddy River
Wolf Creek	362B-1	Headwaters to Crab Orchard Lake

Stream	Reach	Location
Grassy Creek	362B-2	Headwaters to Crab Orchard Lake (including Devil's Kitchen Lake)
Little Crassy Creek	362B-3	Headwaters to confluence with Grassy Creek (including Little Grassy Lake)
Drury Creek	362C-1	Headwaters to confluence with Crab Orchard Creek
Sycamore Creek	362C-2	Headwaters to confluence with Drury Creek
Indian Creek	362C-3	Headwaters to confluence with Drury Creek
Piles Fork	362C-4	Headwaters to confluence with Crab Orchard Creek
Little Crab Orchard	362C-5	Headwaters to confluence with Crab Orchard Creek
Beaucoup Creek	371A	Headwaters to Little Beaucoup Creek confluence
Beaucoup Creek	371B	Little Beaucoup Creek to Panther Creek confluence
Beaucoup Creek	371C	Panther Creek to Galum Creek confluence
Beaucoup Creek	371D	Galum Creek to confluence with Big Muddy River
Lake Murphysboro	372	An impoundment tributary to Big Muddy reach 370
Kinkaid Creek	381	Headwaters to confluence with Big Muddy River
Cedar Creek	391A	Headwaters to Cedar Lake outflow
Cedar Creek	391B	Cedar Lake spillway to confluence with Big Muddy River

There is much less rowcrop agriculture along the lower reaches of the Big Muddy River than along the upper reaches; but, in the northern tributary watersheds rowcrop land use continues to dominate. In the Crab Orchard Creek watershed rowcrop agriculture is the primary land use in the headwaters reach. The rest of this watershed is dominated by the Crab Orchard National Wildlife Refuge which includes three major impoundments (Crab Orchard Lake, Little Grassy Lake and Devil's Kitchen Lake) and several small impoundments. The refuge is an important waterfowl wintering area and provides a full range of water related recreational stream uses. The downstream tributaries of Crab Orchard Creek flow through Carbondale. These along with Casey Fork are the only streams in the 10 county area which flow through a heavily urbanized area.

Hunting and fishing are important streamside activities along the lower reaches of the Big Muddy and far up the length of Beaucoup Creek. Most bridge crossing and other access sites are points of entry for paths used by fishermen. Commercial fishing also occurs in these areas. Boating activities and campgrounds are found on area reservoirs and in Shawnee National Forest areas. Crab Orchard Lake and Kinkaid Lake are heavily used for boating. Campgrounds are found at Crab Orchard Lake, Kinkaid Lake, Little Grassy Lake, Devil's Kitchen, Lake Murphysboro and in several other locations within the watershed. In addition, hiking and primitive wilderness camping is very popular in the Kinkaid and Cedar Creek watersheds and at several locations along the two lower reaches of the Big Muddy River.

The principal water supply reservoirs in the lower Big Muddy Basin are Kinkaid Lake (2,700 surface acres) and Cedar Lake (1,800 surface acres). These supply most of the municipalities in Jackson County. Large portions of the watersheds of these lakes are within Shawnee National Forest lands (Figure 3). Land cover in these areas is forest or idle lands with natural growth. Private lands in the Cedar Creek watershed, Little Crab Orchard watershed and adjacent parts of the Big Muddy drainage contain many apple and peach orchards. The lower reaches of the Big Muddy River receive flow from drainage ditches and bayous that drain croplands in the flood plain bottom lands.

Pollutant impacts in the lower Big Muddy Basin are varied and regional. Agricultural run off and mine waste drainage have considerable impact on some streams. The Little Muddy River, Beaucoup Creek, the upper reaches of Crab Orchard Creek, and Sycamore Creek are affected by pyritic waste drainage from old coal mine sites. The Little Muddy River, Galum Creek and Pipestone Creek (a tributary to Galum) have been partially relocated in connection with current strip mining activities. Streams of the lower Big Muddy River Basin receive effluent from industrial, municipal and private dischargers. Receiving streams are Crab Orchard Creek, Big Muddy River, Little Muddy River and Beaucoup Creek.

Fish populations include both roughfish and game fish in most of the waters where depth is sufficient. Fish inventories include large mouth bass, spotted bass, bluegill, crappie, channel catfish, bullheads, yellow bass, drum and carp found in the Big Muddy, Beaucoup Creek and the lower Little Muddy River. Large mouth bass are not listed for Beaucoup Creek.[7] Alligator gar also are present in the Beaucoup and Big Muddy waters. Gizzard shad are found in Crab Orchard Lake. The reservoirs have been well stocked with game fish.

See Table 3, Stream Use Data for the Lower Big Muddy River Basin, on page 28.

The Saline River Basin

The Saline River orjginates from two forks in eastern Saline county. A third fork enters the Saline River in western Gallatin county. The south fork of the Saline River originates in Johnson county, flows north into Williamson county, then flows eastward and northeastward to its confluence with the Middle Fork of the Saline River southeast of Harrisburg in Saline county. The Middle Fork of the Saline River rises from headwaters in Hamilton, Franklin and Williamson counties and flows southeasterly to its confluence with the South Fork. This confluence forms the Saline River. The North Fork of the Saline River originates from headwaters near McLeansboro in Hamilton county. It flows south-southeasterly through the northeast corner of Saline County and through western Gallatin County to its confluence with the Saline River near Equality. The Saline River system drains 1,170 square miles of watershed area. The topography of its watershed varies from the low relief farmlands of Hamilton, northern Saline and northern Gallatin Counties to the prominent rough land of the Shawnee and Wildcat hill regions.

The Saline Basin streams were divided into reaches using the Middle Fork of the Saline River as the main channel. Five streams have been included in this stream inventory as second order tributaries to the Saline main stem. Nine third and fourth order tributaries have also been included. These streams and their reach designations are as follows:

Stream	Reach	Location
Saline River (Middle Fork)	400	Head to Gassaway Creek confluence
Saline River (Middle Fork)	410	Gassaway Creek to Bankston Fork confluence
Saline River (Middle Fork)	420	Bankston Fork to South Fork confluence
Saline River	430	South Fork to North Fork confluence
Saline River	440	North Fork to Eagle Creek confluence
Saline River	450	Eagle Creek to confluence with Ohio River
Bankston Fork	421A	Headwaters to Brushy Fork confluence

Stream	Reach	Location
Bankston Fork	421B	Brushy Fork to confluence with Middle Fork
Brushy Fork	421B-1	Headwaters to confluence with Bankston Fork
South Fork, Saline River	431A	Lake of Egypt and outflow
South Fork, Saline River	431B	Lake of Egypt to Sugar Creek confluence
South Fork, Saline River	431C	Sugar Creek to Little Saline River confluence
South Fork, Saline River	431D	Little Saline to confluence with Saline River
Sugar Creek	431C-1	Headwaters to confluence with South Fork
Little Saline River	431D-1	Headwaters to confluence with South Fork
North Fork, Saline River	441A	From juncture of Lakey and Ten Mile Creeks to Contrary Creek confluence
North Fork, Saline River	441B	From Contrary Creek to Cane Creek confluence
North Fork, Saline River	441C	Cane Creek to confluence with Saline River
Ten Mile Creek	441A-1	Headwaters to North Fork confluence
Wheeler Creek	441A-2	Headwaters to confluence with North Fork
Contrary Creek	441B-1	Headwaters to Hogg Creek confluence
Contrary Creek	441B-2	Hogg Creek to confluence with North Fork
Hogg Creek	441B-3	Headwaters to confluence with Contrary Creek
Rector Creek	441B-4	Headwaters to confluence with North Fork
Long Branch	441B-5	Headwaters to confluence with Contrary Creek
Cane Creek	441C-1	Headwaters to confluence with North Fork
Crawford Creek	441C-2	Headwaters to confluence with North Fork
Cypress Ditch	442	Headwaters to confluence with Saline River
Eagle Creek	451	Headwaters to confluence with Saline River
Rock/Harris Creeks	452	Headwaters to confluence with Saline River

There have been extensive channel modifications carried out on the Saline River and its forks and tributaries. Sixty percent of the Middle Fork, a similar portion of the North Fork and the lower third plus portions of the upper third of the South Fork of the Saline River have been dredged and straightened. A recent Corps of Engineers project removed all trees and brush from the previously channelized banks of the lower South Fork. The main stem of the Saline River has also been channelized. This extensive channel modification has resulted in heavy silt deposition in the Saline River near Equality and at other downstream points. A pattern of downstream aggradation and upstream degradation appears to have been established in the Saline Basin.[8]

The most important impoundments in the Saline Basin are Lake of Egypt (2,250 surface acres) in the headwaters of the South Fork of the Saline River in Johnson and Williamson Counties, the Harrisburg Reservoir in Saline County which serves as a water supply for Harrisburg, the Eldorado Reservoir, (also a water supply lake) and the McLeansboro Reservoir in Hamilton County. All of these reservoirs serve as recreational and fishing waters as well as primary or secondary water supply lakes. The Pounds Hollow impoundment in Gallatin County is a 28 acre recreational lake in the Eagle Creek watershed. A good sport fishery exists in each of these lakes.

The primary land use in most of the Saline Basin is crop farming. Parts of the southern reaches of the Basin are included in Shawnee National Forest lands (Figure 3). In these watersheds land use is mostly confined to forest and recreational uses.

In the entire North Fork watershed and major portions of the Middle and South Fork watersheds the primary stream use is the drainage of agricultural lands. Many of these streams have been modified to form a network of ditches bordering fields. These streams are typically devoid of shading vegetation and support no fishery. The upper reaches of the South Fork (Lake of Egypt and the reach below it) are used as a water supply source by a power generating facility, the Lake of Egypt Water District and the Village of Carrier Mills. This portion of the stream does support a fishery including game fish species. Fish can be found in portions of many streams in the Basin. The presence of game fish in Brushy Fork is an example of this. Fish kills attributed to mine waste pollution and siltation have been reported in the Saline and its tributaries.[9] A game and commercial fishery is found in the lower Saline River from U.S. Highway #1 downstream. Game fish and rough fish are found in the North Fork of the Saline River near Texas City. Rough fish are found elsewhere in the Saline Basin.

Pollutant impacts from acid mine waste are a major factor of water quality in the South Fork of the Saline and its tributary Sugar Creek, in Bankston Fork and Brushy Fork, in Eagle Creek and in the main stem of the Saline River. Because of extensive channelization and the lack of streamside buffer zones, sedimentation due to agricultural land uses and from areas rendered barren by salt mine spills can be expected to have heavier than normal effect on water quality in the North Fork and Middle Fork watersheds. These impacts place a limitation on the stream uses possible in the Saline Basin.

See Table 4, Stream Use Data for the Saline River Basin, on page 30.

KEYS TO STREAM USE INVENTORY TABLES

Stream Uses

1 - Water Transportation
2 - Drainage
3a - Parks, Picnic, Camping
3b - Hunting and Trapping
3c - Trails and Aesthetic Uses
4 - Contact Recreation
5 - Power Generation
6 - Domestic Water Supply
7 - Commercial Water Supply
8 - Industrial Water Supply
9 - Non-game Fishing
10 - Sport or Game Fishing
11 - Commercial Fishing
12 - Boating (High Power)
13 - Boating (Low Power)
14 - Unpowered Boating
15a - Municipal, Domestic Point Sources
15b - Industrial Point Sources

Streamside and Watershed Land Uses and Cover

A - General Agricultural
C - Croplands
F - Forest or Woodlands
U - Urban Area
M - Mined Areas
R - Residential Development
P - Parks and Public Lands

Modifications and Flow Controls

I - Impoundment
Ch - Channelization
TI - Impoundment on Tributary
R - Channel Relocation
Cl - Bank Clearing

Other Symbols

H - Reach begins at headwaters
G, F, P (in access column) - good, fair or poor access
Br, Ra, Rd, Tr (in access column) - Bridge, Boat Ramp, Road End, and Trail

Table 1
STREAM USE DATA FOR THE OHIO RIVER TRIBUTARIES

Stream Reach	Inflow Reach	Outflow Reach	Current Stream Uses		Desired Stream Uses		Streamside Land Uses		Primary Watershed Land Use	Water Users	Treatment Dischargers Name MGD	Modifications & Flow Controls	Public Access Type	Rating
			Primary	Secondary	Primary	Secondary	Primary	Secondary						
201	H	Ohio	3b	10,3c	-	-	F 70%	A 30%	F 55%	-	-	-	Br	P
202	H	Ohio	3c	3c,10	-	-	F 60%	A 40%	F 50%	-	-	Ch @ 146 Br.	Br,Rd,Tr	P
203	H	204	3a,10	3c,3b	10,14	3b,3c,13	F 95%	A 5% FM	F 80%	-	-	-	Tr,Rd,Br	P
204	203	Ohio	10,11	3b,3c	10,11,14	3b,3c,13	F 65%	A 35%	F 50%	-	-	TI	Rd,Tr,Br	P
205	H	Ohio	3b	3c	-	-	F 80%	A 20%	F 60%	-	-	-	Br	P
210	H	212	10,3c,3b	4,3b	10,14,4	2,3c,3b,9	F 80%	A 20%	F 60%	-	-	-	Tr,Br,Rd	F
211	H	210	9,10,11	3c,4	10,14	3c,3b	F 80%	A 20%	F 60%	-	-	-	Br	P
211-1	H	211	3b	3c,15a	10,3b	3c	F 60%	A 40%	F 60%	-	-	-	Br	P
220	H	221	3c,3b	14,9,10,4	10,14	3c,3b	F 98%	A 2% FM	F 85%	-	-	-	Tr	P
221	220	222	3a,3b	9,10,14,4	10,14	3c,3b	F 90%	A 7% U 3%	F 90%	-	-	-	Tr,Rd,Br	P
222	221	Ohio	9,10,11, 3a,3b	12,13,14, 3c,4	9,10,11, 12,13	14,4,3a,3b 2,3c	F 90%	A 5% U 5%	F 90%	-	-	-	Tr,Rd,Br	P
220-1	H	220	3c	-	-	-	F 95%	A 5%	F 85%	-	-	-	Br	P
230	H	231	2,9,10, 3a,3c	3c,3b,14	-	-	F 65%	A 35%	F 50%	-	-	I(4)	Br,Tr	P
231	230	232	2	15a,15b, 9,10	-	-	C 70%	F 30%	C 70%	Ill. State Prison	Ill. State Prison N/A	TI	Br,Tr	F
232	231	233	2	9,10	2	9,10,4	C 75%	F 25%	C 80%	-	-	Ch,R	Br	P
233	232	Ohio	10,11,9	3b,3a	2	10,4	C 55%	F 45%	C 60%	-	-	Ch,R	Br	P
231-1	H	231	3a,3c, 10,4	14,2,9	10,11,13	4	F 85%	A 10% P 5%	F 85%	-	Dixon Springs N/A	I	Rd,Tr,Ra	G

Sources: Greater Egypt Regional Planning and Development Commission, Areawide Waste Treatment and Water Quality Management Planning, Appendix A-1, Report on Point Sources of Pollution in Southern Illinois 208 Area. GERPDC Publication # 78-484, 1978.

Illinois Environmental Protection Agency, Phase I of the Water Quality Management Basin Plan for the Big Muddy River Basin, Volume I, Existing Water Quality, 1976.

Table 2

STREAM USE DATA FOR THE UPPER BIG MUDDY RIVER BASIN

Stream Reach	Inflow Reach	Outflow Reach	Current Stream Uses		Desired Stream Uses		Streamside Land Uses		Primary Watershed Land Use	Water Users	Treatment Dischargers Name MGD	Modifications & Flow Controls	Public Access Type	Rating
			Primary	Secondary	Primary	Secondary	Primary	Secondary						
300	H	310	2,3b,6,10	13	2,3b,6,10	13,14	F 70%	C 30%	C 50%	Lake Development	-	TI	Br Shoreline	P
310	300	320	2,3b	9,10,15a	2,3b,10	9,3c,14	C 60%	F 40%	C 66%	-	Woodlawn N/A	I	Br	P
320	310	330	6,7,8,10, 12,3a	3b,3c,13 14,15a,15b	-	-	P	F	P	Rend Lake Conservancy Dist.	Sesser N/A Corp of Engr. N/A Coal Mines N/A Private N/A	I(18,900 surface acres)	Ra,Br,Rd, Tr	G
330	320	340	9,10	2,3b,3c, 15a	10,2	3b,3c	F 90%	C 10%	C 55%	-	Christopher .27 Benton 1.4 Valier .08	-	Rd,Tr	G
340	330	350	2,9,10	15a,3b,14	-	-	F 85%	C 15%	C 60%	-	Zeigler .285 Christopher .53	TI	Br	P
350	340	360	2,9,10	15a,15b, 3b,14	-	-	F 85%	C 15%	C 60%	-	-	-	Br,Tr	P-F
311	H	310	2	3b	3a,3c,10	12,13,4, 3b	C 75%	F 25%	C 60%	-	-	-	Br	P
321	H	320	2	15a,15b	2	10,15	C 55%	F 45%	C 64%	-	-	-	Br	P-F
322a	H	322b	2,3b	6,3c,9	2,3b	6,3c,10	C 61%	F 36% U 3%	C 45%	Mt. Vernon (secondary)	Dix Addition N/A	2TI	Br Rd	P F
322b	322a	320	15a,15b	3b,9	3a,3c,10	15a,15b, 3b,9	C 40%	F 34% U26%	C 40%	-	Mt. Vernon Ind. Pk N/A Private N/A	-	Br Rd	P F
322b-1	H	322b	2	3b	6,10,12, 13,3a,3c	2,3b	F 45%	C 40% U15%	C 65%	-	-	-	Br	P
323	H	320	2	3b,10,9	2,3a,3c	10,3b	F 55%	C 45%	C 73%	-	Bonnie N/A	-	Br	P
324	H	320	2	3b,10,9	2,3a,3c	10,3b	C 55%	F 45%	C 71%	-	Ina N/A	-	Br	P
341a	H	341b	2,3b	10,13,15b	-	-	F 87%	C 13%	C 75%	-	Coal Co. N/A	TI	-	-
341b	341a	341c	2	3b,9,15	2	3b,9,10, 15	F 75%	C 25%	C 60%	-	-	TI	-	-
341c	341b	340	15a,15b	3b,9	-	-	F100%	-	F 65%	-	-	Ch	Br	P
341c-1	H	341c	2,15a, 15b	9	-	-	F 75%	C 25%	C 75%	-	Coal mine N/A	-	Br	P
342	H	340	2	15a,15b	-	-	F 58%	C 42%	C 70%	Coal mine	Zeigler .013 Coal mine N/A	I	Br	P
351a	H	351b	2	-	-	-	C 70%	F 25% U 5%	C 70%	-	-	-	-	-
351b	351a	350	2	-	-	-	F 90%	C 10%	F 80%	-	-	-	-	-
351b-1	H	351b	2	15a,15b	-	-	F 50%	C 40% U 10%	C 60%	-	Johnston City N/A Coal mine N/A	-	Br	P
352	H	350	2	15a,15b	-	-	F 75%	C 25%	F 55%	-	Energy .10 Herrin 1.2 Crainville .11 Allen Ind. .01	-	Br	P

Sources: Greater Egypt Regional Planning and Development Commission, Areawide Waste Treatment and Water Quality Management Planning, Appendix A-1, Report on Point Sources of Pollution in Southern Illinois 208 Area. GERPDC Publication # 78-484, 1978.

Illinois Environmental Protection Agency, Phase I of the Water Quality Management Basin Plan for the Big Muddy River Basin, Volume I, Existing Water Quality, 1976.

Table 3
STREAM USE DATA FOR THE LOWER BIG MUDDY RIVER BASIN

Stream Reach	Inflow Reach	Outflow Reach	Current Stream Uses		Desired Stream Uses		Streamside Land Uses		Primary Watershed Land Use	Water Users	Treatment Dischargers Name MGD	Modifications & Flow Controls	Public Access Type	Rating
			Primary	Secondary	Primary	Secondary	Primary	Secondary						
360	350	370	2	9,13,14,15a	2,10	4,9,13,14	A 54%	F 41% U 5%	C 58%	-	Carbondale .75 Airport .003 Private N/A	-	Br,Tr Rd	F P
370	360	380	2,15a,b	9,13,14,15a 3a,3c,3b	2,10	4,9,15,13, 14,3a,3c,3b	F 47%	A 35% U 18%	C 51%	-	Murphysboro 1.36 Lake M'boro .01 Private N/A	-	Ra,Tr	G
380	370	390	2	9,11,13,14 3b,15a	2,10,11	4,9,13,14 3a,3b,3c	F 70%	A 30%	C 50%	-	Gorham .04	-	Ra,Tr Rd,Br	F P
390	380	Miss. River	2	9,11,13,14, 15,3a,3b,3c	2,10,11	4,9,12,13, 14,3a,3b,3c	F 62%	C 38%	F 80%	-	Grand Tower .11	-	Tr,Rd, Br	F
361a	H	361b	2	15a,3b	-	-	A 80%	F 20%	C 75%	-	Tamaroa N/A Ashley N/A	-	-	-
361b	361a	361c	2	3b	-	-	F 65%	A 35%	C 53%	-	-	Ch	-	-
361c	361b	360	2,3b	9,15a,15b	-	-	F 82%	A 10% M 8%	F 40%	-	DeSoto 0.1 Elkville 0.1 Consol.Coal .05	R,Ch	Br,Tr	P
361c-1	H	361c	6,2	15a,15b,3c, 10,9,4,3a,13	6,10	3a,3b,3c,15, 9,14,13,4	F 51%	A 42% M 7%	C 60%	DuQuoin	DuQuoin NA Consol.Coal N/A	I	Ra	G
362a	H	362b	15a,15b, 2	3b	-	-	F 55%	A 31% U 10% M 4%	C 50%	-	Marion N/A	-	-	-
362b	362a	362c	10,12,14 3a,4	13,3c,6,7,8	-	-	F100%	-	F 55%	-	Carterville 0.3	I	Ra,Rd, Br,Tr	G
362b-1	H	362b	10	3b	10,3b	-	F 79%	A 21%	F	-	-	TI	Br,Rd	P
362b-2	H	362b	10,3b	4,3a,3c,13, 14	10,3b	4,3a,3c,13 14,5	F100%	P	F	-	Park .005	I	Ra,Tr Rd	G
362b-3	H	362b	10,3b	3a,3c,13,14	10,3b	4,3a,3c,13 14	F 73%	A 27% P	F	-	Park .004 Private N/A	I	Ra,Tr Rd	G
362c	362b	360	15a,15b	3c,9,10	-	-	F 55%	A 41% U 4%	C 53%	-	Carbondale 3.7	-	Tr Br	G P
362c-1	H	362c	2,3b	15a,3c	-	-	F 60%	A 22% R 18%	F 55%	-	School .016 Private N/A	-	-	-
362c-2	H	362c-1	2,3c	15a,10,3b	3c,10,4	3b,15a,2	F 75%	A 11% R 8% M 6%	F 52%	-	School .003	I	Br	F
362c-3	H	362c-1	2	3b	2,10	4,3b	F 95%	A 5%	F 58%	-	-	-	-	-
362c-4	H	362c	3a,10	6,14,3c,2	-	-	U 48%	F 32% A 20%	R 39%	Carbondale (secondary)	-	I	Ra,Tr	G
362c-5	H	362c	2,15a,15b	3c,3b	3a,15a,15b 3c	2,3b	F 43%	U 16% A 42%	C 37%	-	-	Ch	Br,Tr	P
371a	H	371b	2,9,10	3b	-	-	A 74%	F 26%	C 70%	-	-	-	-	-
371b	371a	371c	2,9	10	-	-	F 53%	A 42% U 5%	C 67%	-	Pinckneyville 0.3	-	-	-
371c	371b	371d	2	3b,9	2	5,3b,14, 13	F 53%	M 31% A 16%	C 53%	-	-	-	-	-
371d	371c	370	2,10	9,3b,15a	2	4,9,13, 3b	A 60%	F 40%	C 60%	-	Ava .08 Private N/A	-	-	-

Table 3 (cont.)

Stream Reach	Inflow Reach	Outflow Reach	Current Stream Uses		Desired Stream Uses		Streamside Land Uses		Primary Watershed Land Use	Water Users	Treatment Dischargers Name	MGD	Modifications & Flow Controls	Public Access Type	Rating
			Primary	Secondary	Primary	Secondary	Primary	Secondary							
371a-1	H	371a	2,3b	9,10	-	-	F 52%	A 48%	C 65%	-	-		-	-	-
371a-2	H	371b	6,7,3a	9,10,13, 14	-	9,14	F 55%	U 45%	F 45%	Pinckney-ville	-		I	Ra,Tr	G
371b-1	H	371b	2	3b	-	-	F 71%	A 29%	C 62%	-	-		-	-	-
371c-1	H	371c	2	3b	2,10,9	3b,4	A 49%	M 23% F 28%	C 60%	-	-		-	-	-
371d-1	H	371d-4	2	-	-	-	A 50%	F 37% M 13%	C 55%	-	-		-	-	-
371d-4	371d-1	371d	2	3b,9	2	3b,9,10	A 60%	F 40%	C 64%	-	Cutler	0.1	-	-	-
371d-2	H	371d-4	2	3b	-	-	F 43%	A 32% M 25%	C 58%	-	-		-	-	-
371d-3	H	371d-4	2	3b	-	-	A 60%	M 18% F 27%	C 40%	-	-		-	-	-
372	H	370	2	3b,9	2,3b	4,9,10	F100%	P	F 85%	-	-		-	-	-
381	H	380	6,10,12,4	3a,3b,3c 13	-	-	F 92%	A 8%	C 46%	-	-		-	-	-
391a	H	391b	6	10,13,14 4,3a,3c	6,5	10,13,14 4,3a,3c	F100%	-	F 63%	Carbondale Makanda	-		I	Ra,Tr	G
391b	391a	390	3a,3b,3c	-	3a,3b,3c	-	F 96%	A 4%	F 80%	-	-		-	-	-

Sources: Greater Egypt Regional Planning and Development Commission, Areawide Waste Treatment and Water Quality Management Planning, Appendix A-1, Report on Point Sources of Pollution in Southern Illinois 208 Area. GERPDC Publication # 78-484, 1978.

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Table 4
STREAM USE DATA FOR THE SALINE RIVER BASIN

Stream Reach	Inflow Reach	Outflow Reach	Current Stream Uses		Desired Stream Uses		Streamside Land Uses		Primary Watershed Land Use	Water Users	Treatment Dischargers Name MGD	Modifications & Flow Controls	Public Access Type	Rating
			Primary	Secondary	Primary	Secondary	Primary	Secondary						
400	H	410	2	3b	-	-	A 85%	F 15%	A 85%	-	-	Ch,R	Br,Rd	P
410	400	420	2	3b	-	-	A 75%	F 25%	A 85%	-	Galatia .16	Ch,R	Br,Rd	P
420	410	430	2	6,15a	10,6,12	15a,3c,13	A 70%	F 30%	A 65%	Harrisburg	Eldorado .36 Harrisburg 1.25 Muddy .045	Ch,R	Ra,Tr	F
430	420	440	2	-	2	-	A 65%	F 35%	A 60%	-	-	Ch	Br	P
440	430	450	2	-	10,13,14	11	F 52%	A 48%	A 60%	-	-	-	Br,Rd	F
450	440	Ohio	10,2	11,3a,3b, 4	10,11,13	14,3a,3b, 4	F 65%	A 35%	A 55%	-	-	-	Rd	F
421a	H	421b	2	-	2,10	3b,4	M 60%	A 30% F 10%	A 45%	-	-	Ch	Br	F
421b	421a	420	2	-	2,10	3b,4	A 60%	F 40%	A 75%	-	-	Ch	Br	P
421b-1	H	421b	2	9,10,3b	10,2	9,3b	A 80%	M 10% F 10%	A 70%	-	-	Ch,R	Br	P
431a	H	431b	8,6,12, 10,4	3a,3c	-	-	F 50%	R 50%	A 55%	-	-	I	Ra,Rd, Tr	G
431b	431a	431c	3b,6	9,10,15a	3b,6,15a	9,10	F 70%	A 30%	A 55%	Carrier Mills	Carrier Mills 0.2	-	Br	P
431c	431b	431d	2	-	2,10	3b,14	M 50%	F 25% A 25%	A 50%	-	-	Ch	Br	P
431d	431c	430	2	-	2,10	3b,14	A 85%	F 15%	A 80%	-	-	Ch	Br	P
431c-1	H	431c	2	-	10,3c	-	F 65%	A 5% M 30%	A 55%	-	Creal Springs .10	R,Ch	Br,Tr	P
431d-1	H	431d	3b,10,9	2,3c	6,10,4, 13	3a,3c	F 60%	A 40%	A 60%	-	-	-	Br	F
441a	H	441b	2	9	2	-	A100%	-	F 10% A 90%	-	McLeansboro 0.35	-	Br	F
441b	441a	441c	2	9,10	2,10	-	A 60%	F 40%	A 70%	-	-	Ch	Br	F
441c	441b	440	2	9	2,10	-	A 90%	F 10%	A 90%	-	-	Ch	Br	P
441a-1*	H	441a	3a,3c,10 14	6	6,7,10, 12,4	3a,3c,14	A 65%	F 35%	A 70%	-	-	TI	Br	F
441a-2	H	441a	2	3b	2	3b	A 90%	F 10%	A 90%	-	-	-	Br	P
441b-1	H	441b-2	2	3b	2	3b	A 85%	F 15%	A 60%	-	-	Ch	Br	F
441b-2	441b-2	441b	2	3b,9	2	3b,9	A 75%	F 25%	A 85%	-	-	Ch	Br	P
441b-3	H	441b-2	2	3b	2	3b	A 95%	F 5%	A 80%	-	-	Ch	Br,Rd	P-F
441b-4	H	441b	2	9,10,3b	2,10	3b,9	A 90%	F 10%	A 55%	-	-	Ch	Br	P-F
441b-5	H	441b-4	2	9,10,3b	2,10	3b	A 95%	F 5%	A 90%	-	-	Ch	Br	P-F
441c-1	H	441c	2	3b	-	-	A100%	-	A 85%	-	-	Ch	Br	F
441c-2	H	441c	2	-	2	-	A 95%	U 5%	A 95%	-	-	Ch	Br	F
													Park	G
442	H	440	2	9,10,3b	-	-	A 90%	F 10%	A 80%	-	-	Ch	Br	F
451	H	450	9	9,3b	6,7,10, 12,4	3a,3c,14	F 50%	M 5% A 45%	A 50%	-	-	-	Tr	G
													Br	P
452	H	450	3b	9,10	-	-	F 65%	A 35%	F 60%	-	-	-	Br	P

* Uses associated with a public impoundment in the watershed.

Sources: Greater Egypt Regional Planning and Development Commission, Areawide Waste Treatment and Water Quality Management Planning, Appendix A-1, Report on Point Sources of Pollution in Southern Illinois 208 Area. GERPDC Publication # 78-484, 1978.

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Chapter 4

CONCLUSIONS

Desired stream uses were not expressed for all of the stream reaches. It is felt that a degree of public apathy exists in regard to stream use and the setting of water quality standards. There was a tendency to be satisfied with current uses in the reaches of the Big Muddy Basin. In the Saline Basin desired uses more often went beyond the present physical limits of the streams.

Use constraints in the Southern Illinois area may be divided between those that are relatively alterable and those that are unalterable or nearly so. Pollution by mine waste drainage, high levels of sedimentation and absence of shading and vegetative buffers along streams are alterable constraints to many stream uses. Such pollution can be reversed by meeting goals for mine waste cleanup and sediment and erosion controls that are already in place for attainment over time. It is very likely that many reaches now impacted by factors that prevent contact and water supply uses and that preclude presence of a sustained fishery can, in the future, meet the public desire for contact, game fishing, and supply uses. The results of this inventory indicate that there is public interest in returning polluted reaches of the South, Middle, and North Forks of the Saline River and the Saline main stem to a use capability requiring higher water quality than is now available. There is also much concern that the streams of Pope and Hardin County remain at their present high quality and use capability. The continuance of a good fishery, recreational uses, water supply uses and a high quality water-fowl environment in the Big Muddy Basin is also a regional concern.

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